

# SLCC Anemometer Loan Program Application – 50-meter tower

## Instructions

To participate in the program, please fill out this application in its entirety. If you are applying for more than one location, please complete separate applications for each specific site. Completion of the application does not guarantee an equipment loan, and the number of anemometer towers available will vary. Applications are due by June 1st. Anemometers are generally installed at a site for no less than one year.

Fifty-meter towers are generally loaned to those studying large-scale projects. Fewer 50-meter towers are available than 20-meter towers. Therefore, to be eligible for a 50-meter tower, a site will usually need 20-meter anemometer data that suggest a good wind resource. However, a site without previously collected wind data will be considered if it can be demonstrated that the site has very promising wind resources. Due to the size of 50-meter towers, the equipment required for their installation, borrowers are required to provide a backhoe with operator for anchor installation, and 4-5 workers to assist with both installation and decommissioning. Additionally, the borrower must be prepared to bear the cost of renting or purchasing additional equipment for sites with difficult or atypical installation requirements. Examples are items such as rock anchors, jackhammers, rock drills, and the compressors or generators needed to power such tools. If the site will be inaccessible by road for long periods during the winter, borrowers will be required to either snowmobile in to the site monthly, or purchase telemetry equipment that will transmit data from the site without someone having to physically visit it. Telemetry equipment costs \$1,500 to \$3,500, plus monthly airtime charges. Cellular airtime can cost as much as \$40 per month, and Iridium satellite service can cost several hundred dollars per month. Finally, borrowers are required to contact their city and county and obtain any permits that might be required to erect a foundationless, guyed, temporary monopole structure.

The following factors are used to evaluate each proposed site:

**Wind Resource Map:** What is the quality of the wind resource as predicted on Utah's wind resource map? Sites located within or close to regions that have a high-predicted wind resource are looked upon favorably. However, this map is a model and gives only a rough estimate of available wind resources. Many quality sites have been identified inside areas that were predicted to have poor wind resources by this map. Utah's wind resource map can be viewed at [http://www.energy.utah.gov/renewable\\_energy/wind/wind\\_resource\\_map.htm](http://www.energy.utah.gov/renewable_energy/wind/wind_resource_map.htm).

**Favorable Topography:** Do factors such as elevation, vegetation, and/or nearby land forms/topography suggest a quality wind resource? Factors that would suggest a quality wind site often include being higher than the surrounding area, being clear of obstructions that would create wind flow turbulence (large trees, buildings, geological features, etc.), tree/vegetation flagging (trees are permanently bent in direction of prevailing wind, with branches longer on the downwind side and shorter or missing on the upwind side), and proximity to mountains, valleys, or canyons that may accelerate wind flow. High elevation, whether on a ridge top or a plateau, can also suggest higher wind speeds.

**Accessibility:** Is there enough clear area at the proposed site to erect a tower and is it easily accessible? A clear, flat space of roughly 250ft x 250ft is required to erect a 50-meter tower.

**Favorable Land Use:** Is the site appropriate for a wind energy project? Are there (or will there be) building restrictions, zoning problems, or opposition from surrounding neighbors?

**Project Purpose/Goal:** Is the potential project expected to be large scale (commercial), medium scale (school, town, state, non-profit, Indian land), or small scale (private ownership, residential, business, ranch)? How clear are the objectives of the proposed plan? Who will use the power?

**Transmission and Load:** For large-scale projects, is the site near an electrical transmission line or a load center? For small-scale projects, is there an ability to use power generated on-site or locally?

**Proximity to Past Anemometer Sites:** Preference is given to sites near locations where data indicate there are quality wind resources and in promising areas where little or no data have been collected. Sites at or near previously loaned 20-meter towers that show strong winds (11 mph or greater) receive extra consideration. Current and past ALP sites can be viewed at [http://www.energy.utah.gov/renewable\\_energy/wind/anemometerdata/index.htm](http://www.energy.utah.gov/renewable_energy/wind/anemometerdata/index.htm)

**Contact Information** *(the person our office will be working with for the loan):*

Last Name\_\_\_\_\_ First Name\_\_\_\_\_

Mailing Address\_\_\_\_\_

City\_\_\_\_\_ State\_\_\_\_\_ Zip Code\_\_\_\_\_

Home Phone (include area code)\_\_\_\_\_ Cell Phone\_\_\_\_\_

Work Phone\_\_\_\_\_ Fax\_\_\_\_\_

E-mail\_\_\_\_\_

**Landowner Information:**

Go on to the next section if the Landowner and the Contact person are the same. If they are not the same, please fill out this section.

Last Name\_\_\_\_\_ First Name\_\_\_\_\_

Mailing Address\_\_\_\_\_

City\_\_\_\_\_ State\_\_\_\_\_ Zip Code\_\_\_\_\_

Home Phone (include area code)\_\_\_\_\_ Cell Phone\_\_\_\_\_

Work Phone\_\_\_\_\_ Fax\_\_\_\_\_

E-mail\_\_\_\_\_

**Application History:**

Have you applied with us before?\_\_\_\_\_

How many times?\_\_\_\_\_

What was the last year you applied?\_\_\_\_\_

Have you had an anemometer loan before?\_\_\_\_\_

How many times?\_\_\_\_\_

When was the last year you received a loan?\_\_\_\_\_

Has an anemometer tower been placed at, or near this site in the past? \_\_\_\_\_

What was the height of the past or current anemometer(s)? \_\_\_\_\_ feet *or* \_\_\_\_\_ meters

Proposed site's distance from past tower in approximate feet *or* miles \_\_\_\_\_

What was the average wind speed recorded with the past anemometer? \_\_\_\_\_ mph *or* \_\_\_\_\_ m/s

### **Project Description:**

Purpose and goal of project for this location (*see instructions*):

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If data reveal favorable wind resources, what kind of wind project do you foresee pursuing?  
(*circle one*) Small (residential), Medium (community), Large (commercial), or Other \_\_\_\_\_

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### **Location Specifics:**

Physical Address \_\_\_\_\_

City/Town \_\_\_\_\_

County/Zip Code \_\_\_\_\_

Please provide **detailed** GPS Coordinates: (*i.e. degrees, minutes, and seconds*):

Latitude \_\_\_\_\_ Longitude \_\_\_\_\_

Topographic Map: *Please mark the proposed site on a topographic 7.5' quadrangle map or quality Google-type map and include with application. You can purchase maps from the Department of Natural Resources Map and Bookstore ([mapstore.utah.gov](http://mapstore.utah.gov)) or access them online at [geology.utah.gov/maps/topomap/index.htm](http://geology.utah.gov/maps/topomap/index.htm). If you would like help with this please contact our office.*

Proposed Site Elevation (in feet) \_\_\_\_\_

Is the land where the anemometer will be placed higher than the surrounding area? \_\_\_\_\_

Cleared Area: Approximate square feet \_\_\_\_\_ or acres \_\_\_\_\_  
(Roughly 250ft x 250ft of level ground is required to erect a 50-meter tower)

*Borrowers are responsible for providing a backhoe with operator for anchor installation, and 4-5 workers to assist with both installation and decommissioning. Additionally, borrowers must bear the cost of any non-standard equipment that must be purchased for sites with special anchoring, access, or data transmission requirements. These costs can range from a few hundred dollars to several thousand dollars (see Instructions section).*

Are you able to provide said equipment and personnel, and to bear the cost of any necessary additional equipment? \_\_\_\_\_

Accessibility: How far is the site from the nearest paved road? \_\_\_\_\_ Unpaved road? \_\_\_\_\_

Can the site be easily accessed with a vehicle? \_\_\_\_\_

Soil type at site: (circle one) Ledge, Rocky, Clay, Sandy, Topsoil

Restrictions: Are there any local restrictions on structure height, zoning, building, or other requirements? \_\_\_\_\_ If so what are they? \_\_\_\_\_

How far is the nearest neighbor from the site?  
approximate feet \_\_\_\_\_ or miles \_\_\_\_\_

How far is the nearest structure?  
approximate feet \_\_\_\_\_ or miles \_\_\_\_\_

Please describe the site (i.e. vegetation, topography, obstacles, etc. Photographs of the site are also helpful):

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Please explain why you feel this would be a good site for a wind study:

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Property Line: How far is the nearest property line from the site?  
approximate feet\_\_\_\_\_ or miles\_\_\_\_\_

Name of the nearest airport\_\_\_\_\_

Approximate distance to the airport\_\_\_\_\_

**Transmission/Distribution Lines:**

How far are you from electrical transmission or distribution lines?  
approximate feet\_\_\_\_\_ or miles\_\_\_\_\_

What is the voltage of these transmission/distribution lines (if known)? \_\_\_\_\_

Who owns these lines?\_\_\_\_\_

Please describe these lines:

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Have you discussed the possibility of placing a wind turbine at your site with your local utility?  
If so, what was said?

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Name of utility\_\_\_\_\_

Utility contact name and phone number\_\_\_\_\_

Did the utility agree to provide transmission? (*circle one*) Yes or No

**Site Monitoring:**

Who will be responsible for monitoring the equipment and sending in the data chip?

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If you have any questions about this application please contact:

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